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Oct. 16, 1916.]

E. A. Earp

The New Zealand Beekeepers' Journal

The Official Organ of the
National Beekeepers' Association of N.Z.

No. 28 DUNEDIN. 3/6 Per Annum.

Hints for Beginners.

WHAT TO DO.

(By W. B. BRAY, Barry's Bay.)

So far the beekeeping industry in New Zealand has been developed only in a small way. There is room for great expansion yet, and the bigger it grows the more respect will it command. The more and better honey we have to sell the bigger will be the demand for it, and the prosperity of the industry as a whole will be reflected in the fortunes of the individual beekeeper. This journal can play a very big part in stimulating the growth of the industry. Most of the readers are keeping bees as a side line. They have started with little or no experience, and as likely as not they will lose all interest in them after a few years unless they are able to make some progress in acquiring the art of successful management. We must make it the function of this journal to help our readers with practical advice. We who have the experience can make their pathway smoother for them, so that their interest in the bees will grow. By encouraging the beginners of to-day we are helping to put the industry on a sound footing, for they will be the professionals of to-morrow.

In writing these monthly notes for beginners, I hope to be excused if I use the capital "I" too much, as I do it more for convenience in composition. I do not propose to enumerate each month all the work that has to be attended to, but propose rather to point out the essential work in season.

Any beekeeper who has not yet read a book on bees should at once do so. Until the reader is acquainted with the internal economy of the beehive and the terms used by beekeepers, he cannot grasp intelligently the instructions given in these pages. I do not agree with Mr. Baines that this Journal should start at the A B C of beekeeping. There are plenty of good books on bees which supply that want.

Probably the most important question for the beginner, or, for that matter, any beekeeper, is to ascertain whether the bees have foul-brood. Have you ever seen foul-brood? If not, do you think you would know it if you saw it? I have met men who, having read that it could be detected by the smell at the entrance, depended on their noses. Now, I have a very keen nose, but very seldom have I used it that way. The eyes are more certain. Look for one cell that has a different appearance in the capping. Investigate by opening it, and if there is not a live bee inside in some stage or other, there is

something wrong. Look for the ropiness, but if you cannot be sure, make certain by consulting someone who does know foul-brood. The sooner you learn how to detect the presence of foul-brood, if it is only one cell, the better, because you must best it or it will "bust" you.

Until you know that you have no disease in your apiary, don't change combs from one hive to another, because you might unknowingly transfer the disease to a clean colony. But whether you have foul-brood or not, never leave any combs or anything containing honey outside a hive where the bees have access to it. There may be exceptions to this in a clean apiary, but never in an infected one. Honey lying about outside the hive causes robbing, which makes very unpleasant working conditions, and where disease is present it is spread right and left by robbing. Another thing to remember to avoid unpleasantness for yourself and your neighbours is never to leave a hive open longer than is necessary to do what you want to it. I know one man who thought nothing of leaving his hives open for hours at a time. Bees have got a bad name in his district as a consequence. He himself was never without a veil, and he had to run with veils to meet visitors.

Where there is disease to treat, I would advise the old and well-tried plan of shaking the bees on to starters for four days, and then giving them full sheets. If the colonies being treated are weak, double them together (by shaking into one hive) until there are enough bees to cluster on at least five frames. The best time to start treating for disease is just when enough new honey is coming in to keep them going nicely, which is just about the time the bees think of swarming (unless they are provided with storage room). I cannot set a date for beginning thé treatment, because conditions vary so much between the extreme north and south. In some localities it can be started now. Full directions for treatment can be obtained from the Apiary Division of the Department of Agriculture. Remember always that prevention of re-infection is the most important part of the cure. It is no use to say that the treatment is no good if you allow even one bee a taste of the infected material afterwards.

Before the next Journal appears the bees will be thinking of swarming. If you want a crop of honey, counteract the tendency to swarm by putting supers on in time. As soon as the bees crowd on to the outside combs, and you see white wax being built along the top bars, you can put the super on, because then the bees have honey to store. I am one of those who do not use queen excluders. The bees are almost certain to refuse to go into the super if the excluder is put on when the first super is given. After they are used to going into the super to store honey, then the excluder may be put in between, if desired, and they will continue to use the super.

I do not advise anyone to cut out queen cells for the purpose of preventing swarming. If the bees want to swarm and they are thwarted a few times, they will swarm without queen cells. Very often they rear the queen cells just for the purpose of superseding an old queen, and have no intention of swarming, hence it is an unwise plan to be cutting these cells out. Let the bees attend to their own business. When you do get a swarm, move the old hive to a new stand, and hive the swarm

on the old stand. The best way is to set the new hive ready on the old stand, shake the swarm into an empty box, carry them to the hive, and tip them out on a sack in front of their new home.

When examining a colony, now take the opportunity to work any badly shaped combs to the outside, where they are likely to be emptied, so they can be removed altogether. Put any drone combs well away from the brood, unless it is a particularly good colony, as then you want their drones to outnumber the others. I put whole drone combs into my best colonies.

A few timely words on putting foundation in the frames. "Critic" gave us a useful wrinkle—to break the wedge into three pieces; no trouble then with wedges coming out. Too many beekeepers try to do without wiring the frames. I would as soon do without the foundation as do without the wire. It ensures straight combs by holding the sheet straight till the comb is built, and then the frame can be handled without fear of the comb falling out. It is almost impossible to break wired combs without putting your foot through them or breaking the frame. I use No. 30 wire, and draw it very tight. I used to embed the wire, until it was suggested to me that it was unnecessary, so I knocked it off, and get just as good results.

I can endorse what Mr. Luke says about lids. I use all flat telescope lids like his, but not so thick on top. They don't leak.

It is penny wise and pound foolish to let the bees starve during the next few months, so keep a watch on their stores.

I don't know why so many beekeepers will persist in placing their hives under trees or up against fences. It is ever so much more convenient to have them in the open, where you can get all round them. It is possible to shift a hive to a new position a few yards away if there are no other hives near the old stand to draw the bees. Make the shift in the middle of a warm day. Then take every comb out, and shake most of the bees on to the ground in front. The commotion will cause them to locate afresh, and the returning field bees will be attracted to the new position.

A BEGINNER'S METHODS.

I should say most of us beginners open up too early in the spring. We are anxious to have a look in, but we don't see very much, and don't do the bees any good. If we leave it a little later—say, the last week in September—we should find all the queens laying, the weather a little warmer, and perhaps the weeping willows just coming out, and the bees will handle much better. Give the bottom boards a clean, see there is plenty of stores, the queens laying, and the brood healthy; put on an extra mat, and close the hive, and don't be long about it this time. The next look should be about a month after (the end of September). Choose a nice day. The straight willows should be coming out now, also peaches, and the bees will handle very nicely. If you have plenty of willows close around and calm weather, you have a chance of getting a surplus by uniting the weaker ones—that is, making the brood

chamber full of bees, brood and honey, and putting a half-super on top; if no willows close don't put the super on. Put in a frame with some drone cells in it in the brood nest of your second best queen; also keep drones down from undesirable queens by shaving off their heads, or, better still, cut out the drone comb. Queen-rearing is best done at swarming time, but anyone well up in the game could rear them any time drones are flying. When increase is not wanted top boxes should be on before the hives get overcrowded; also give more and more room at the entrance as the days get warmer and bees stronger. I clip all my queens' wings. I may lose a queen now and again through not getting back in the hive again, but if she had had her wings on I would lose the swarm too, and as long as I get round before the young ones are hatching things are all right. Now is the best time to start beekeeping. I would warn a beginner about buying old-established hives without having a good look for foul-brood, or getting a beekeeper to look. If I were starting again, I would buy the hives in the flat and put them together, and put on a good coat of white paint; put in full sheets of foundation, then collect swarms, or give someone 3/- or 5/- to get them for me. If you keep them in the box for a couple of days and shake them down in front of the frame hive about sundown, burn all bits of comb built in the box, and there's not much fear of them carrying foul-brood germs in with them. If they do they will use it up building out their comb. I think there is nothing more sickening to a young beekeeper than to get a good dose of foul-brood, and then a poor crop of honey, and rob the bees too close in the autumn, and perhaps find in the spring one or two starved out and the rest on the verge, and rather weak. A good stinging is very painful. I always like to cover myself with a good bee-veil. If taking a swarm that has been hanging a time, a good plan is to pull a pair of woollen socks over the hands and up over the coat cuffs; it keeps them from going down your sleeve. The first swarm I tried to take I learnt a good lesson. After reading a little I felt satisfied they would always be gentle when swarming, but I got a rude shock and two eyes bunged up. I have been careful ever since.

Rapaura, Marlborough. H. R.

MARKETING HONEY AT HOME.

A short time ago the general manager of the Bristol and Dominions' Association (Major Norton) was in New Zealand, and met by appointment the Chairman of the Honey Producers' Association (Mr. H. W. Gilling) and Mr. R. W. Brickell (a director). The Major gave a detailed account of the way New Zealand honey is now placed upon the British market. The shortage in our exports last season was a very serious one, as it upset the arrangements entered into in anticipation of a supply equal to if not greater than the amount shipped under the first year of the contract. The shortage was somewhere in the vicinity of thirty tons; when packed in 1 lb. pots this works out to big figures. Under their contract the Bristol and Dominions' Association are entitled to either purchase a quantity of honey equal to the shortage or to recover damages. Had

they taken either of these courses, it would have hit the Honey Producers' Association so hard that it is doubtful whether the strain on the young company would not have been too great for it. The Major, when the position was explained to him, so that he could see the difficulties under which the company had worked, generously waived his right to damages, of course without prejudice to any action he might take in the event of a shortage in future years. The duty of the Honey Producers' Association and of the beekeepers of the Dominion is to leave no stone unturned and to spare no effort during this season of shipping a quantity equal to the contract plus the shortage.

A meeting of the Waikato shareholders of the H.P.A. was held in Hamilton early in September, called for the purpose of allowing as many as possible to hear Major Norton explain in detail how our honey is handled and sold in Great Britain.

The Major, who was received with applause, said he thought that he had lived up to the promises made two years ago when he previously met them in Hamilton. However, events in the interval had turned out quite different to what anyone could have possibly forecasted at that time, and the Association had encountered difficulties which were not then conceived.

A STAGNANT MARKET.

Being in close association for eight years with every grocers' association in the United Kingdom, he was perfectly aware at that time of what the position in respect to New Zealand honey was like. It all went to London, and was sold in bulk to the big majority of people, who placed it under their own label. This, he considered, was not in the best interests of the New Zealand producers. His minimum guarantee was 4d. per lb. free on board in New Zealand. The speaker explained that with the sudden rising of war conditions, the difficulty that he experienced in purchasing jars, which advanced more than double the usual rates, and were not purchasable at all now. Cases for packing moved to a rate three times as great as pre-war charges. In respect to labour, the most of which was previously done by boys and girls, such was absolutely impossible if they knew England as it is to-day. All the previous available supply had gone to the Army or were engaged in munition work. He had no idea when he originally discussed the question with them he would be unable to get glass jars, and when he was faced with such a position, he had to set to work to find a substitute to store the honey. They had to remember this very essential point, that when they were introducing a new brand to the grocer they could not expect, and must not ask for, the same price as that commanded by a well-known brand. Freight, port and other charges, that were such essential aspects of their doings before the honey could be placed on the market, had doubled and trebled in some cases what they were originally. Figures showed that he was getting 48/- for their honey, whereas it had previously brought only 34/- or 35/- on an average, and latterly he had taken it over at 50/- per cwt. The substitute vessels for the glass jars were preferred by the public after they became known, but to keep up their supply he had to contract for no fewer than 500,000,

and took a risk, as cash had to be put down. With the object of making their product popular, he had placed consignments with the grocers for sale or return, and he found that the first 10,000 vessels were sold. The matter of window displays for their honey was one that they could have no idea of the trouble there was in arranging.

THE POLICY OF BUSINESS.

They might ask: Why have you not succeeded in getting a higher price? To that he would reply that in January and February he could have got another 1/- a dozen, but to his mind there was such a thing as policy in business. Mr. Norton claimed that it would have been foolish to exploit the people who had stood by them at the start. It would have been most unsound to have demanded a higher price, as the business was not only of to-day, but of the future. Fifty shillings per cwt. had been obtained for the whole output, dark and light, which was a figure never dreamed of before.

The speaker described himself as in mortal terror of the War Office stepping in and commandeering the honey. It was not the policy to have sold the whole of the output to the War Office and let the grocers do without. The War Office would not buy in bulk, and to do it up in 2 lb. tins to suit their requirements meant the purchasing of special machinery, and also the delivery of the honey at any point the authorities required, in small or large quantities, as the case might be. When the War Office did not commandeer the honey, it was possible to keep up trade with the retail grocer, who was the best man in the United Kingdom as far as the New Zealand honey producer was concerned. He refused to sell the honey in bulk, and that was the last thing the grocers wanted, as they would not be able to buy bottles or vessels, and again it was impossible for them to get labour to do the work.

AUSTRALIA'S SHORTAGE.

Dealing with a point respecting the price of 6d. for honey in Australia, Mr. Norton said that the answer was the shortage of supply. If a glut came they would not get 3d. at Port Adelaide for it, and in dealing with South Australia he ought to know what he was talking about. Further, in respect to Home marketing, Mr. Norton said that it was necessary to get suitable advertising, and the cost of that in England at the present time was something unheard of. Their business was to keep up their connection, and though they may have had a bad season this time, they had to remember the extraordinary conditions. The price was higher than they had ever had before, and their honey was now known where it had never previously been heard of.

A LOST OPPORTUNITY.

Mr. Miller contested portion of Mr. Norton's remarks, his complaint being that Mr. Norton had missed an opportunity by not entering into negotiations with the War Office for the disposal of the honey supply. He had been apprised, he said, of the backing of twenty-three shops and £4,000 to go to England and start in opposition to the Bristol Company, while one firm had guaranteed ninety tons in one year. Facts had proved that there was a big difference between what the War Office

was paying and what they had obtained for the New Zealand output. The speaker said that he was in possession of an offer of 6d. per lb. at Auckland.

Mr. Norton replied that if the previous speaker had an offer of 6d. per lb. he would advise him to take it. It was a fact that South Australia had a certain amount of honey in London, which had been sold to the War Office.

HONEY UP "KITE-HIGH."

Mr. Miller reiterated that honey had advanced "kite-high," and as far as the continuity of supply was concerned, that was quite disorganised. By the opportunity mentioned, up to £8 per ton better price was available. He argued that he was quite competent to go into any shop in England and place the honey.

Another speaker said that Mr. Norton had undertaken originally to do certain things in respect to placing our honey on the market. One was to place the honey with the retail groceries, which had been done. He contended that to supply the War Office would have been a breach of contract. As far as the producers were concerned, there was no complaint by the honey producers, as Mr. Miller wished them to believe.

Mr. Miller: They had not enough business ability to complain.

A Voice: The shareholders will all be pleased to hear you say that, Mr. Miller.

In reply to Mr. Sage, Mr. Norton said that they would be advised after the annual balance on November 30th in regard to the bonus. It would be materially reduced this year, but still it would be a considerable one.

Dealing with the market prospects for dark honey in Scotland and the North of England, Mr. Norton said that they were very bright, and they could take all they could send.

On the motion of Mr. Hutchinson, a hearty vote of thanks was accorded to Mr. Norton, the speaker emphasising the wisdom of steady development of the market.

NOTE.—It may interest readers to know that Mr. Miller was asked after the meeting was over to close with the offer he asserted he had, and to enter into a contract to accept 25 tons for a period of three years, but after some considerable correspondence he found that in the meantime the arrangements could not be completed. Comment is unnecessary!

FOUL-BROOD.

By W. B. BRAY.

What a lot of trouble Mr. Cotterell has been put to in curing foul-brood. Granting that he has made a permanent cure, would it not have been better if he had kept quiet and said nothing about it? Not that foul-brood is a thing to be ashamed of. Most beekeepers run up against it at times, and if they are good beekeepers they fight it till it is cured. There is only one good way to cure it, and that is the shaking method. I do not think it is a good plan to give publicity, even at full

meetings, to any such complicated plan as that used by Mr. Cotterell. In his hands it may work, but I venture to say that the average beekeeper will find it a failure. The plan may look very tempting, as it saves melting up the combs.

Mr. Cotterell gives us his experience of the McEvoy treatment, and by implication condemns it. He makes a great error by associating starvation with the treatment. McEvoy and all other authorities always insist that the bees have full freedom of flight, and be encouraged to build comb at once. They cannot build comb under starvation conditions, so the treatment must be applied when honey is coming in, or the bees must be fed. Now, if Mr. Cotterell had an outbreak of foul-brood, we presume there was a source of infection somewhere. The fact of foul-brood re-appearing may be accounted for in three ways. The bees may have had access to the original source of infection; they may have retained infected honey in their sacs while he attempted to starve them; or they may have had access to the infected material from their own hives after treatment.

I have used the McEvoy treatment, and seen it used so often with successful results that I would recommend no other to the average beekeeper. When treating an odd hive in an apiary, I have had the disease appear in adjacent hives. During the shaking the bees have drifted, so now I remove a diseased colony right away before treating it. I have used the Baldridge plan successfully, and believe it is very good where there are few to treat. I have had a case stay cured where I took away the bottom storey with the infected combs, the bees having worked into the super, but would not advise others to try the same. I once had an infected colony, which was discovered when re-queening in the autumn. The new queen was a pure Italian, and in the following October neither the apiary inspector nor myself could find a trace of disease. Even had that colony remained clean (foul-brood appeared the same summer, and it was treated) I would not advise Italianising alone as a cure.

In another case I treated two colonies, leaving enough bees in one to care for the combined brood combs, and giving them a queen cell. The virgin was lost, so I put another cell in, and by the time the queen began laying all the brood was hatched, and very few diseased cells were left. These looked as if they were being cleaned out by the bees, so I left them. The first batch of the new queen's brood was healthy, but in a couple of months the disease was as bad as ever, so I treated them.

Mr. Cotterell admits that there may be too much disease in a comb to be cured by his treatment. How is the average beekeeper to judge which is too far gone? The essence of his treatment seems to be in getting the combs free of brood, pollen and honey, then cutting out the diseased cells, which, he says, show up fully capped. Now, he says nothing about the diseased cells which are uncapped, and which are often more numerous than the capped ones. I wonder how many beekeepers know how to detect uncapped diseased cells?

If new cures for foul-brood are to be given us, they should not be given per medium of a garbled newspaper report. They should be written up thoroughly, so that those with a taste for experiments (and trouble) can get an idea of it. Advice on curing foul-brood is like advice on how to kill a cat. A

cat could be killed by choking it with butter, but there are other ways. Most beekeepers will stick to the McEvoy way of treating foul-brood.

To discover uncapped cells of foul-brood, hold the comb horizontally, with the top bar next you, about level with the chest, and stand with the back to the sun or a strong light from window, so that the light comes over the shoulder and strikes the comb on a slant. The light then shines on the lower wall of the cell, where the dried up diseased larvae lies plainly to be seen. Try it on a diseased comb, and see if you can pick out the open cells containing the dried up scale. It often happens that the only diseased cells on a comb are uncapped, and without examining the comb this way it would be passed as clean.

BUZZINGS IN BEETOWN.

(By "Citizen.")

Prospects for the coming season in this Province (Wellington) are distinctly good. There was a heavier flow of honey last autumn than has been the case for a good few years past. Consequently stocks are opening up better in every way, and even should we get bad weather in October and November (such has been the case since 1911), bees will still have ample stores to carry on.

Prices for next season's crop are also promising. Tempting offers have already been made by Wellington houses, as much as 7d. lb. bulk honey being mentioned. But my advice is, "Stick to your own Company."

We know (or we think we know) that foul-brood does not attack adult bees. At what stage in the development of the young bee in the cell needs to be reached before the bee is immune from the disease? I'll venture on six days, but it is only a guess.

Did anybody say "Scum" at Conference? I never heard it—no, not once!

Talking of wedges (page 443), I have given up using wedges. All my frames I make up now have only one groove. A little hot wax is run down both sides to hold foundation.

Evidently we have not yet reached finality as to the best treatment for foul-brood. Personally, I am going to stick to the McEvoy plan till I find something better, and, mind you, there is plenty of room for improvement in the McEvoy plan. I am looking forward to seeing a description of the Dudley tube and its use by Mr. Cotterell.

I think more discrimination should be shown by the Department in appointing local inspectors. The scheme is a good one, but it will be spoilt unless fully qualified men with extensive experience are appointed. One gentleman I know who now has power to inspect has only been at the game two or possibly three seasons. He is a very good fellow, keen and enthusiastic about bees, but keenness and enthusiasm take the place of knowledge and experience.

Correspondence.

(TO THE EDITOR.)

Sir,—On page 468 of the Journal Mr. W. Brown, Junr. says: "I know a few ways of making whitewash that will stand all weathers." For one, I would be glad to hear what some of the ways are. We have just made half-a-dozen or so of hives out of benzine cases, and whitewashed them with a mixture of beef-dripping, rock lime and water, and it appears to be an absolute failure so far as standing the weather is concerned.

I am pleased to see you are trying to get a contributor of articles, more particularly in the form of instructions to beginners. We need your help more than the experts. I will fall in with Mr. F. C. Baines' suggestion (page 467), and sign in full.—I am, etc.,

DAVID CAMPBELL.

Waiuku, September 29.

(TO THE EDITOR.)

South Pacific Ocean.

Sir,—At time of writing I am very close over the very much vibrating screw of a transport on its way to join in the European War. Please continue sending the Journal to me, Mr. D. McCulloch, Springdale, but c/o Mr. A. Frost, Havelock North, Hawke's Bay, who is looking after my place whilst I'm away. I paid the subscription at last Conference to June 30th, 1916. I intend to enclose 3/6 for next year's subscription if I can get hold of a postal note. I believe Mr. F. A. Jacobsen, instructor and inspector, is going to enlist, if he has not already done so.

Tel-el-Kebir, Egypt, 21/7/16.

I am now at the above camp, and have been here for a month, and do not know how long we remain or where we go. The weather is very hot and dry.

Enclosed please find P.O. money-order for 13/6—3/6 for the Journal and 10/- for the apiary registration for next 12 months (50 colonies).—I am, etc.,

No. 13072.

Pte. D. McCulloch, "H" Company, 12th Reinforcements, c/o G.P.O., Wellington.

(TO THE EDITOR.)

Sir,—Mr. Clayton is getting a lot of criticism in regard to his foul-brood cure. I treated two colonies last November for foul-brood according to his carbolic method, with the feeder of syrup unmedicated, and I, like the others, did not see the bees quitting the frames, but gorging themselves for all they were worth; and I had to brush them off, as they were very thick on the combs, and did not take any notice of the brush dipped in the carbolic. I had other colonies to treat, but I was sceptical, and did not proceed any further with the method. Both colonies gave a surplus, and I have watched them closely. Both are clean. Is it the carbolic or the foundation—which? I think the foundation. The bees might just as well have been shaken, as they had twelve minutes, time enough to get a load of the

infected honey. The working out of the foundation and the consumption of the honey before it is possible to store any of it is the cure.

I have a few more to treat, and as soon as the weather is warm and a little honey coming I will try it again with unmedicated syrup, as I have no faith in the medicated syrup.—I am, etc.,

Waikumete. HOPKIN THOMAS.

(TO THE EDITOR.)

Sir,—Let me endorse what Mr. F. C. Baines says as regards the beekeeper running under those different "cusses," and "Critic" included. What would we think of Dr. Miller's, Doolittle's, Holterman's or Foster's writings if they had to run under a nom de plume? Perhaps it might interest "Critic" to know that the heavy rainfall is not against the beekeepers getting good crops in this locality. In Central Taranaki, with a rainfall of 75 to over 100 inches, the seasons are more reliable and better crops are obtained than in the south, with a rainfall of 45 inches or so.

The foul-brood situation was just the same here two years ago as that described by the Collingwood correspondent and by W. Brown of Cheviot. With the local inspector's help most of it has been cleaned up. But just six miles north of here, where there has been "Government inspection," there are all kinds of foul-brood. It is a wonder the beekeepers have not wakened up and found out the "Government inspection system" has fallen rather flat, and they have to depend on themselves for cleaning up the disease.

Re treatment of foul-brood, Mr. Cottrell claims to get it cleaned up by the bees without destroying combs. I think his bees just cleaned up a bad case of sac brood, as the American is repulsive to the bees, and they won't touch it. Last year I had a hive with nearly a quarter of the brood diseased. It was very like the American, but it wouldn't string out. I requeened the hive, and let it go to the spring, and the other day when I looked at it there wasn't one cell diseased. Perhaps it was this same kind of foul-brood Mr. Cottrell tried his bees out on.

Here's my method for treating, which I claim is the quickest, safest and best. Clip the queen's wings so that she cannot abscond, then when the bees have stopped flying in the evening, shake them off the frames, and let them hang on the roof for five days. Then have a clean hive and frames with full sheets of foundation, and on the fifth day shake the bees into it. If no honey is coming in they will need to be fed. With only one or two hives diseased, it would be best to burn the combs, but with a lot it might pay to melt up the combs for the wax. By this method of treating I haven't had one hive get disease again unless from outside.

This spring is a little late, but at one of my yards of forty colonies it does not appear so. All the hives were wintered in two-storey twelve-frame hives, and on the 20th September several had nine and ten frames of brood with eggs and larvae in queen cells. What do you think of that?—I am, &c.,

Castle street, Eltham. T. J. MANNIX.

THE USE OF HONEY IN COOKING.

We have received through the courtesy of Messrs. J. Ilott, Ltd., Wellington, a copy of the Airline Honey Book. This booklet, which consists of some 64 nicely printed pages, is crammed full of interesting and useful information, together with a quantity of poetical quotations dealing with honey in all forms, and we are taking the liberty of quoting from it:—

"A Greek philosopher, charmed with the fragrance and flavour of honey, declared it to be dew distilled from the stars and the rainbow. While science has laid aside Aristotle's fancy, it has shown the real nature of honey to be not less dainty and tempting. As everybody knows, honey is the nectar of flowers modified and evaporated by honey bees.

"Until years comparatively recent the belief was general that the bees store the floral juices unchanged in the honeycomb. Now we know that the honey we spread on hot breakfast biscuits is quite different in many ways from the droplets in pasture flowers. Changes chemical and physical have taken place.

"The raw nectar in the blossom is little more than sweetness and water, plus the essential oils that give each flower its characteristic perfume. Within the hive, the bees transform its chemical structure, producing a substance of nearly equal parts of grape-sugar and fruit-sugar. By the fanning of their wings and the temperature of the hive's interior, they evaporate the water content down to only 20 per cent., as compared with the 76 per cent. present in nectar of the honeysuckle.

"Chemically considered, honey is a concentrated solution of invert sugar (dextrose and levulose in nearly equal proportions), with traces of dextrine and other substances. Some of these are pollen, ethereal oil, various phosphates, lime, and iron. Most of the elements to be found in the human body are present in small proportions.

"It is to these substances, the essences of floral fragrance, that the aroma and flavour of airline honey are due. Somehow, the taste of honey seems to penetrate deeper than does any other sweet. It possesses a mild piquancy which nothing else in all the world can give. Airline honey has more than the flat sweetness of sugar. It holds the sunshine from gardens and meadows, the native sweetness of tranquil rains and soils. The refreshing taste of honey is the standard which the maker of syrups has vainly tried to reach.

"Consider the toils of Nature in bringing to you one single comb or jar of airline honey. In the case of the white clover, one authority estimates that a bee would have to make 2,500,000 visits to secure one pound of honey. These myriads of comings and goings are only a part of the aggregate labour of the hive. Honey, the loveliest of all sweets, ranks as one of our most wholesome foods. It comes in the class of fuel-producing foods like sugar, which furnish energy to the system rather than fat and bone. Second only to dates in energy value, honey ranks far above steak, fish, potatoes or bread in this respect.

"A constituent of minor importance in honey is lime. Unless care is taken in the selection of foods, this important factor in bone-building may be neglected.

"The praises of honey, both as a sweetmeat and as a food, have been celebrated from the beginning of literature. We see

it occupying a place at the daily tables of the Greeks. Zeus himself, ruler of gods and men, was fed as an infant on honey and milk, indeed a food for gods. Carved in the rock-hewn temples along the Nile is the hieroglyphic of the bee, the Egyptian symbol of royalty. Honey is the theme of some of the richest passages in the old Vedic literature of India. Joshua and his associates could report the fertility of Canaan in no more forceful language than as 'a land flowing with milk and honey.'

"In English history and in Saxon and Norse legends, the student reads of mead, the drink of high and low alike. The brew was made from a mixture of honey and water. In Scandinavian epics the heroes who fall in battle drink from horns of mead in Valhalla.

"Throughout the Middle Ages honey was practically the only sweet to be had. Sugar made from cane began commonly to take its place when trade with the tropics developed in the sixteenth century. At that time honey could not be produced as cheaply as sugar. Now, with the vast improvements in beekeeping, the quantity available has been increased, and the price kept within the reach of everyone. As a consequence, honey is rapidly regaining its former position as a staple food in the home."

RECIPES.

Daffodil Meringue.

2 rounding tablespoons granulated tapioca, 1 pint boiling water, 3 eggs, ½ cup honey, 2 tablespoons lemon juice, 1 tablespoon butter, pinch salt.

Moisten the granulated tapioca with cold water, and stir it into the boiling water. Salt lightly and cook until clear. Beat the yolks of the eggs and beat in the honey with the lemon juice and butter. Add this gradually to the tapioca and cook over hot water until it thickens—about 20 minutes. Pour into a buttered dish, adding a little candied lemon peel if desired. Cover with a meringue made from the whites of the eggs beaten with 3 tablespoons of honey, and bake to a delicate fawn colour.

Honey Rice Pudding.

Two-thirds cup rice, ½ cup honey, 1 egg, 1½ cups milk, ½ cup raisins, pinch salt, pinch cinnamon.

Clean and boil the rice in salted water (makes 2 cups boiled). Mix all the ingredients in the order given, except the cinnamon. Put into a buttered baking dish, sprinkle with the spice, and bake in a moderate oven until thick and brown. Serve cold.

Honey Rice Pudding.

3 cups milk, ½ cup rice, 4 tablespoons honey, ½ teaspoon salt, 1 tablespoon finely chopped lemon peel.

Carefully wash the rice, stir it into the milk in a deep baking dish and add the other ingredients. Bake in a moderate oven 2 hours. Stir frequently during the first hour and a-half of baking. Serve cold with milk or cream.

Bread Pudding.

Six slices stale bread, ½ cup raisins, ½ teaspoon cinnamon, 2 eggs, 2½ to 3 cups milk or more, depending on size of slices,

3 tablespoons honey, ¼ to 1-3 teaspoon salt.

Toast the slices of bread very slightly, and cut each into 6 small squares. Butter them and spread them over the bottom of a well-greased baking dish. Sprinkle with a few raisins, and dust lightly with cinnamon. Put in another layer of bread, raisins and cinnamon, and continue until all the bread is used up. Make a custard of the milk, honey, salt and eggs. Bring to a boiling point in a double boiler and stir in the eggs, slightly beaten. Pour the custard over the bread and bake in a moderate oven for ½ hour.

Steamed Pudding.

Two eggs, 2-3 cup honey, 1 cup sweet milk, 1 cup chopped raisins, ½ teaspoon salt, ½ teaspoon soda, ½ teaspoon cinnamon, ¼ teaspoon cloves, ½ teaspoon allspice, 2 heaping teaspoons baking powder, 2 tablespoons ground chocolate, 2 cups flour, or more.

Mix thoroughly; add more flour if needed. Pour into greased tin, cover with greased paper, and steam 3 hours. Turn out and serve with hard sauce.

Raisin Bread.

1 quart milk, 1 tablespoon butter, 2 eggs, 1 cup honey, 1 tablespoon salt, 1 yeast cake, ½ cup water, 2 lbs. seedless raisins, ¼ teaspoon soda, about 3½ quarts flour.

Scald the milk and partially cool. Add butter, and when lukewarm stir in eggs well beaten, honey, yeast cake dissolved in ½ cup warm water, and flour to make soft batter, about 1¼ quarts, measured before sifting. In the evening add soda dissolved in a little warm water, salt, raisins, and flour enough to make dough, about 2¼ quarts. Cover, and let rise over night. In the morning divide into 4 loaves, sprinkle with cinnamon, and let rise until light. Bake 1 hour.

SHALL WE BURN OR BOIL OUR FOUL-BROOD COMBS, FRAMES AND HIVES?

By J .C. HOBBS.

I have been greatly exercised in my mind lately because I have read so much in recent years advocating the burning or burying of combs and frames of hives containing foul-brood, knowing that much of this is needless loss and waste.

In a recent issue of "Gleanings," an American inspector said if he found a hive containing one cell of foul-brood he ordered it to be burned. There are no doubt circumstances and conditions where an inspector would be quite justified in ordering the hives and all to the flames; but all the same I am satisfied there is much unnecessary waste of good hives and frames, and also of valuable wax. During twenty-five years' experience with this disease I have never burned anything but old box hives that have had the combs cut out. These make valuable kindling for boilers. If I find a hive with one cell, I cut that cell out with a pen-knife, taking care not to touch the cell with knife, but keeping well into the six surrounding cells. This piece cut out is burned in the smoker. The hive is marked with the "suspected" mark and watched for a season, and if no more foul-brood appears, it is considered

cured; if more foul-brood cells appear, it is of course transferred. I do a good deal of uniting of foul-brood colonies so as to only treat strong ones. It is a waste of time to transfer weak hives unless one is very short of bees. When I take off foul-brood combs, I pile them up in my honey house, and cover them up with lids or something, so that if bees happened to get in they could not get at them.

I never cut combs out of frames now as I used to; it is a great waste of time, and brings one in too close contact to the disease. Avoiding as much as possible the touching of foul-brood is desirable. It nearly gives me the horrors to see anyone take hold of a piece of foul-brood comb. I have given up burning my hands with carbolic acid, but use a disinfectant soap that is guaranteed to destroy even cholera germs, etc. Steaming and boiling hives, frames and combs I have found to be a perfect disinfectant.

My boiling-down plant consists of two boilers—one a square 200-gallon tank with top cut off some six inches down the sides, which reduces it to about 180 gallons. The other is a circular tinned steel vessel with a conical bottom that had been used in a cheese or butter factory for something. They both have straight taps in them, and these are very useful in many ways. These are set on bricks, with the taps projecting over the bricks to protect them from the fire. For the large tank I have a cover made by opening a sack broadways and nailing two battens on the sides so it will stay on.

The boiler is filled about one-quarter with water, and brought to the boil. Four supers of combs are then tipped in, with the tops down; the boiler is now covered up with the sack and left for a few minutes; no need to push them under, as the steam soon melts the combs out of the frames. The cover is then thrown over with a pitch fork, as the steam would scald hands and face. The combs are then pitched out into a shallow tank standing on a platform barrow. The boiler is then filled up again with four more supers of combs and covered up. The combs on the barrow having cooled somewhat by this time are placed in two racks, which hold about thirty frames each in two rows side by side. This is done to avoid twisting the frames and to get more into the boiler. That is the small circular boiler which I have handy, and nearly full of boiling water. The frames in the rack are kept under water by a super or two being placed on top. After boiling a few minutes the supers are lifted off and the frames soused two or three times, lifted out of the water, held over the boiler grooves end down so wax and water can drain. They are then dumped on to the other platform barrow. The boiler is kept boiling furiously, and the wax which collects at one side is skimmed off; this is essential, as it avoids having a lot of wax adhering to frames. The next rack of frames is put into the boiler and weighted down. The clean frames, which have now cooled somewhat, are put in clean supers and piled up on their sides to dry. Sheets of corrugated iron are placed under them; the tops of the frames are placed inwards so they cannot slip out or the sun warp the top bars. When up a convenient height, another sheet of iron is placed on top and weighted to keep off rain. When a number of supers have collected that have contained foul-brood combs, I boil them two at a time for a few

minutes. These are put in criss-cross piles to dry, which they soon do.

The slum-gum is generally pressed next day. If it is covered up and the fire banked, it is soon brought to the boil next morning.

For those that have only a dozen or two combs to treat, I would advise the following:—Procure a big second-hand factory milk-can. Set it on bricks, put a bucket or two of water in it, cover it up, bring it to the boil; pop your combs into it, and re-cover it. I would make a rack to keep the frames out of the water and slum-gum. I do not think it would be necessary to give them a second boiling, for most likely all the wax would run off through the action of the steam. If all's well I am going to give it a trial in a few days, and will report results.

The two racks are made as follows:—Procure two pieces of 2 x 2 inch timber 18 inches long; also eight 5/8-inch by 1½ or 2-inch pieces about 30 inches long. Nail these two inches or more from the ends at the sides of the 2 x 2 pieces in pairs opposite each other, just as though you were making a pair of trestles; only the legs are not strutted, but kept parellel about two inches apart. These are braced near the top with light strips such as thin top bars. The frames are placed in back to back until they contain the required number.

While boiling the frames I keep buckets of water near the fire. This protects my feet from fire, and also supplies hot water to fill up boiler.

I am going to try to do away with boiling the frames, just steam them if it will answer . If the wax does not run off satisfactorily, I shall continue boiling them.

Comments on Passing Bee Events.

By CRITIC.

Opening page, September Number.—Bees are among the very few animals that lay up large stores of food for future generations of their kind, and apparently vastly more than is actually needed; but to argue that they or any other animals work more for the sake of working than for gathering food I cannot believe. There are two reasons to account for their industrious activity and the storage of large quantities of food. First, in a state of nature they throw off large numbers of swarms to form new colonies, and seeing that each individual worker bee carries with it about four days' provisions to provide it with food while building comb, by the time the prime swarm with one or perhaps two after swarms have issued, the stored food has greatly diminished. Secondly, the hive bee (Apis millifica), unlike the humble bee (Bombus) and other bees, is a member of a continuous colony or family, and to exist must lay up a store of food while it can to serve it during the off and bad honey seasons; so that the industrious nature of the bee is a matter of instinct in its own preservation.

Pages 458-9.—There cannot, I think, be room for doubt after all the observations recorded by eminent men that both old and young queens—that is, those that have emerged and

others about to emerge from their cells—do pipe. The piping of the queen at large can be distinguished by its clear articulation in contradistinction to that of the young queen still in its cell, which has a muffled sound. There is ample evidence to prove that the wings are not needed to make the "peep, peep," as when these have been cut off the piping sound has been made. It was Cheshire's opinion that the sound is produced by or the effect of stridulation. The chitine or horn-like character of the segments of the abdomen were, he considered after examination, similar to the stridulating organs in other creatures, which, by a rasping movement, are capable of making the sound. I don't know how to take the following sentence from Mr. Barker's communication, whether it is intended as a tribute to the gentleman's knowledge and experience or a friendly twit: "Come on, friend Jacobsen; you ought to know something about quacking."

Mr. Barker's "P.S."—I think our friend will have few advanced beekeepers agree with his views re too much attention having been paid to queen-rearing alone, which, taken with the further suggestion that we have been doing wrong by eliminating drones (mark, no discrimination is made as to undesirable drones) from our apiaries, logically means going back to the go-as-you-please system before we made an effort to improve our bees by select breeding. Granted that we haven't the same control over mating of our queens that the cattle breeder has over his stock, but we can by breeding plenty of drones in our best colonies and keeping down undesirable ones do a good deal toward reducing the difficulties and by continued culling each season gain our point—the improvement of our bees, and so secure that "extra pound of honey." This is not speculation, but a proven fact.

I am rather surprised that my friend should, as an evolutionist, have overlooked the mistake of saying "we often may assist Nature," etc. Now, Mr. Barker is well aware that Nature requires no assistance. She, to use a Scottish phrase, can "gang her ain gait." It is ourselves we assist in deviating from the direct course of Nature. When we deviate from Nature's scheme we are fighting her, not assisting her; she is always ready to circumvent our puny endeavours, and does do so the moment we relax our vigilance. As an illustration, we may take the original, or what we would call the unimproved type of any of our domestic animals. Now, let us take, say, a two-foot rule to represent the genealogical tree; at the mark of the first inch we have the position of the unimproved or natural animal, and the point where man commences improvement according to his idea by select mating. He has set himself a goal for which he aims, be it greater beef-producing qualities as in oxen, or egg-producing in poultry. We may assume that in 100 years the change artificially brought about during that time from the original animal has taken it along the tree to the six-inch mark. In the same time the change in the relations of the original animal that have remained in a state of nature is scarcely noticeable. Now relax the control of mating, and hand over to Nature a male and female of the "improved" type. Nature at once exerts her force and brings the offsprings rapidly back to a level with the originals.

Someone not interested in evolution may ask, "What has all this to do with beekeeping?" My reply is "Very much." I have shown that it is possible to improve our bees by select breeding, and that when once an effort has been made in this direction it must be followed up each season to reap the reward that is to be gained for our labours. To W. E. Barker, here's "Critic's" hand: Shake!

Page 464.—The average of 28 lbs. of honey per colony per season may seem a very low one for the whole of New Zealand; but when we compare these figures with the same in some other countries they seem high. For instance, in the "Status of Agriculture in the United States," which I have before me, the average production of honey per colony for 4,109,626 colonies is given as 14 9-10 lbs. per colony.

Sulphur fumes being heavier than the atmosphere, the burning sulphur should always be above the combs. If no comb room is available, stack the combs in bodies one over the other, the combs one inch apart, an empty super on top, and the burning sulphur in an iron vessel on this set on a bit of asbestos. Have everything ready, put on the sulphur, and cover and clear out.

Pages 465-6.—I thought every beekeeper excepting those in Britain had given up the idea of drugs curing foul-brood. The Sproule-Cheshire, absolute phenol (pure carbolic acid) remedy regarding administrations, ranged from 1 in 400 to 1 in 750 of phenol in syrup for food. This and other drug remedies were tried all over the world, and although a few have reported success, the vast majority failed; and the failures have been so universal that such remedies have been given up everywhere except in conservative Britain.

Page 471.—I have had so many cases of cures of rheumatism by stings brought under my notice that I am a firm believer in the remedy. Whether every case can be cured is open to question. Do any of your readers know of cures?

A CASE UNDER THE APIARIES ACT.

Bowman v. McKay.—This was an information under The Apiaries Act, 1908, laid by the Inspector of Apiaries for refusing to allow the inspector to examine his apiary at Kaituna. After evidence had been taken, it was disclosed that the prosecution had arisen under a misunderstanding, and the information was dismissed.

At the Conference Mr. McKay made no secret of the fact that he was the writer of the paper being a satirical criticism of the inspector's work in the Golden Bay District. Immediately on the publication of this article in our August issue the inspector visited the district, and within a few days of his arrival issued a summons against Mr. McKay for obstructing the inspector in the execution of his duty. Now, it must be borne in mind that to obstruct an inspector is a very serious matter.

We are of opinion that before an inspector takes the extreme step of prosecuting a beekeeper he should be quite sure of his grounds, and there should be more than a technical breach of the regulations.

SWARM CONTROL AND INCREASED CROPS.

Before another issue of the N.Z. Beekeepers' Journal is printed the swarming season will be with us again. Dr. Miller tells us that the colony that doesn't swarm is the one for the bumper crop. Stands to reason it is. Now, it is a cussed nuisance going through colonies cutting queen cells, and it seems to me that once a colony of bees have made up their minds, as it were, to swarm, swarm they will in spite of you, unless you manipulate the colony in such a way as will satisfy their natural inclination. I don't suppose there are two bee-men in New Zealand who run or work their bees exactly alike. Personally, I have never seen anyone working a bee yard in my life. If I had to begin over again, without knowing a bee from a bot-fly, I would put in at least one whole season with some first-class bee-master for nothing, and would consider myself well paid.

I may here state that criticism doesn't hurt me, not a small bit; I am too old in the horn now to imagine that I am right in everything, more especially with bees.

If by outlining any method of work that will increase the crop, the bee-men of this Dominion are welcome to it through this Journal. I stated last spring that in a district where native bush abounds the flow of dark rank honey is bound to be plentiful, also that it may be turned to profitable account by increasing the breeding capabilities of every colony, whereby instead of having combs blocked with manuka, flax or other low-grade honey, two-thirds of same may be turned into brood by dividing the colony.

I suppose that some of the older hands will have noticed that when the main clover flow is on, some days when the temperature and other conditions are just right, that there is a very heavy flow. With a colony at double strength and on the meridian of its prosperity, it will gather some honey on such a day or days. In a short honey flow it simply means success or failure.

I have been asked a few questions regarding this dividing. Some are as follows:—

1. Suppose the hive swarms, says Bill Snooker.—Well, suppose it does, fathead. Catch the swarm if you can, run it back into the colony it came from if you know it, snare the virgin at the head of the swarm. If you don't know the colony it came from, run them on to a new hive. You've missed a cell somewhere most probably in cutting out.

2. How about getting a double set of bottoms and covers? If by dividing I can increase my clover crop 30, 40 or 50 per cent., it certainly will pay to divide. Bottom cost 2/-; cover 2/6; total, 4/6. By dividing I increase my clover crop 40 lbs., which at 4d. per lb. (without recourse) equals 13/4. By investing 4/6 your net gain is nearly nine shillings, which surely is an investment worth while. N.B.—You have still got the bottom board and cover.

3. Why don't you put a laying queen into the parent colony when you divide?—In the first place I can't raise first-class queens and have them mated before I divide. If I could, I haven't the time to mess about with about 130 neucleus colonies. I find the bees in parent colony will loaf until the young queen

is mated and the colony back to a normal condition, which is just what I am working for. To make myself clearer, I want the force in the parent colony to conserve their energies as much as possible for clover, and not to expend it gathering a lot of rubbish.

4. There is a ring of dark honey next the frame in the combs that you put into the third super. What do you do with it when you are extracting?—Don't uncap it; uncap nothing but clover.

5. You needn't take the slightest darned notice of this article unless you like. Dividing is not compulsory. Fight on.

R. H. NELSON.

SUBSCRIPTIONS.

The following subscriptions have been received during the month:—

Messrs. F. Burnley, A. A. Butt, H. Benton, J. Carroll, J. S. Cotterell, A. Cobham, Wm. Copsey, J. M. Graham, J. C. Gibb, T. Gillies, W. Heald, — Hicks, Chas. F. Horn, J. James, A. Ireland, H. C. Jones, R. E. Keown, T. D. Kelly, C. W. Muir, J. Mail, D. McCulloch, R. H. Nelson, R. W. Paris, R. S. Sutherland, F. Saunders, H. Strombone, A. Thomson, Hopkin Thomas, — Ongley.

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